

ON PHYLLOPHAGA DEBILIS LECONTE, WITH DESCRIPTIONS OF THREE NEW SPECIES.

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Students of our species of Phyllophaga will recall that LeConte in 1856 in his Synopsis of the Melolonthidae described a small species under the name *Gynnys debilis*, the locality of the unique type being given as Philadelphia. In his Revision of 1887 Horn referred *debilis* as a synonym of *dispar* Burm. (erroneously as it proved), and expressed a serious doubt as to the correctness of LeConte's locality, all specimens known to him coming from Florida.

Some weeks ago I received from Mr. Chas. Liebeck, of Philadelphia, four specimens bearing label Atlantic City, N. J., together with four others from Mobile, Ala., with the request that I compare these with the type of *debilis* and with each other. It was Mr. Liebeck's belief that the New Jersey specimens would prove to be the true *debilis*, and on comparison I did indeed find them to agree with the type in every particular.

Mr. Liebeck writes me that—"These four examples are all that I have now though there must have been more in a pint bottle of specimens picked up in the beach drift at Atlantic City some forty years ago. The alcohol evaporated, the specimens dried and became gradually broken and as there were some *P. gracilis* in the bottle, supposed they were all one species and threw them away."

These Atlantic City specimens, and others taken by Wenzel in Camden and Gloucester Co., N. J. (according to the New Jersey State List) of course abundantly substantiate the correctness of LeConte's original type locality, and it now becomes pertinent to inquire as to the relationship of the New Jersey form to that occurring in the Gulf States. A careful comparison of the New Jersey examples with Mr. Liebeck's Mobile specimens and others in my own collection from Florida and Mississippi inclines me to the belief that though very closely related they are not specifically identical, and I therefore propose the following name for the Southern form.

***Phyllophaga austriocolia* n. sp.**

Very similar in size, color, and general appearance to the true *debilis* of LeConte, from which it differs by the perceptibly shorter and more transverse prothorax and notably

by the larger head, especially in the male. The ventral sexual characters are nearly the same, but the genitalia differ appreciably, the lobes of the symmetrical claspers which in *debilis* are short and bluntly rounded are here longer and narrowly rounded or subangulate (See fig. 15, pl. XLIX, of Smith's 1888 paper).

The type is a male labelled "Perkinston, Miss. 6-22-22," collected from cypress and sent me by Mr. J. M. Langston.

The three following evidently undescribed species have stood in my collection for many years and I take this opportunity to make them known.

Phyllophaga mariana n. sp.

Rather stout oblong-oval, moderately convex, ferruginous brown, scarcely shining, thinly clothed with short grey decumbent pubescence with intermixed slightly longer erect hairs on the head, thorax, and base of elytra. Clypeus with a moderate obtusely cuspiform emargination, punctures of clypeus and head subequal, not very coarse, separated by from one-half to about their own diameters.

Prothorax not distinctly angulate at sides, margins feebly subcrenulate; surface rather finely and sparsely punctate, the punctures subequal to or slightly finer than those of the head and separated by one to two times their own diameters, not denser laterally. Elytral punctuation slightly coarser and sparser than that of the thorax; sutural costa moderate, the others weak.

Pygidium feebly convex, finely not densely punctate, pubescence short, recumbent; margin rather strongly reflexed at apex. Metasternum with long hair; abdomen with short appressed hairs, first three ventral segments finely closely punctate in apical half, almost smooth in basal half. Length 19 mm.; width 10.2 mm.

Male characters—Antennal club a little longer than the funicle, but distinctly shorter than the entire stem; spurs of hind tibiae and unguis teeth nearly as in *parvidens*. Third ventral segment obtusely tumid at middle along the rear margin; fourth broadly feebly impressed at middle, this area covered with flattened granules and limited anteriorly by an oblique roughened tumidity which extends backward and outward terminating in a smooth acute ridge parallel with the rear margin and about two-fifths the length of the segment therefrom; hind margin obtusely subangularly prominent at middle; fifth ventral with an abrupt ridge along the

basal margin in middle third, and a slight median longitudinal impression.

Florida (Lake Mary), a single male specimen.

This species is allied to *rubiginosa*, *parvidens* and *pygidialis* but differs from all of them, including the var. *hesteropyga* Davis, in the ventral sexual characters. The more flattened pygidium with strongly reflexed elytral margin still further excludes *rubiginosa* and *arvidens*, but should be nearly as in *pygidialis* which I have not seen; the form broader behind, shining surface and punctuation of the latter as described do not at all agree with the present species.

Phyllophaga iroides n. sp.

Subcylindrical, slightly wider behind, dark reddish-brown or rufopiceous, surface distinctly iridescent sericeous and dull.

Head nearly black, somewhat shining; clypeus emarginate, rather strongly and densely punctate, the punctures however not in mutual contact; front less closely punctured.

Prothorax narrowed in front, sides parallel in posterior half, margin finely somewhat irregularly crenulate; punctuation rather fine and evenly distributed, lightly impressed, punctures distant from one to two times their own width.

Elytral punctures but little larger than those of the thorax though more vague; all the costae very feebly indicated. Pygidium broadly convex, sericeous, very finely sparsely shallowly punctate, each puncture bearing a minute hair.

Metasternum finely not closely punctate with short hair; abdomen convex, sericeous, with sparse minute punctures bearing exceedingly fine short hairs; claws with a moderate intramedian tooth.

Length 17 mm.; width 8.75–9 mm.

Male characters.—Antennal club scarcely longer than the basal joint and much shorter than the funicle. Penultimate ventral segment with a small shallow subparabolic concavity which is shining and densely punctate posteriorly.

Described from two males bearing label Huachuca Mts., Arizona, VIII–16–10.

This species possesses the characters of Horn's Group XIII, and because of its iridescent surface is to be associated with *submucida*. In this latter the punctuation is stronger, the elytral costae more distinct, the antennal club of the male very much longer, and the male ventral characters wholly different.

Phyllophaga microdon n. sp.

Oblong, cylindrical, moderately robust, castaneous, shining, above glabrous. Head three-fifths as wide as the thorax, densely punctate throughout; clypeus narrowly reflexed, very feebly to scarcely perceptibly sinuate at middle.

Thorax widest at middle, the sides there strongly rounded, thence subrectilinearly convergent in both directions, the hind angles obtuse, margin feebly flatly crenulated by the short sparse ciliae; surface sparsely finely evenly punctate.

Elytra not very much wider than the thorax (less than one-fifth in the type) and similarly sparsely finely punctate, the punctures separated as a rule by three or four times their own diameters; sutural costa not strong, the others nearly obliterated.

Pygidium shining, nearly flat, with a few very fine scattered punctures. Metasternum finely sparsely punctate and shining, very thinly pubescent. Abdomen shining, almost impunctate except remotely near the sides. Last joint of maxillary palpi fusiform, flattened on the outer face. Claws with a very small basal tooth.

Length 16.5–17 mm.; width 8.3–9 mm.

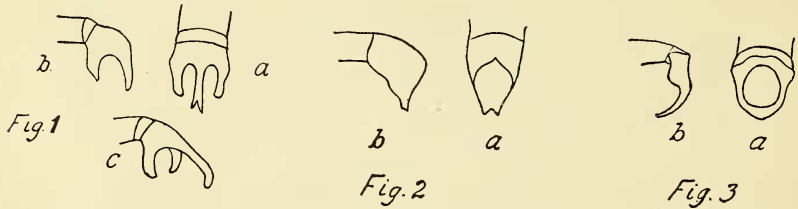
Male characters.—Antennal club distinctly longer than the funicle but not so long as the entire stem. Ventral segments flattened and a little concave at middle but without other sexual characters except for a small shallow median concavity on the last segment.

Three specimens of this remarkably distinct species are before me, the type in my own collection and two paratypes from Mr. Liebeck's collection. All bear the label "Hackberry Creek, Boquillas Road, Brewster Co., Texas, Sept. 2, 1912, R & H." Mr. Liebeck writes me there are four other examples in the Philadelphia Academy Collection, two of these from the above-named locality, one from Persimmon Gap, Santiago Mts., the other from Dog Cañon, both in Brewster Co. All of the specimens were collected by Rehn and Hebard.

This species must be referred to Group XIII of Horn's Revision where it may precede *glabricula*. It does not at all resemble any of the four species there included; indeed the finely sparsely punctate upper surface, thorax widest at middle with obtuse hind angles, almost glabrous metasternum, tarsal claws with a very small tooth at the extreme base, and the absence of ventral sexual characters aside from the flattening of the segments, form a combination of characters not approached by any other known species

of our fauna. The tooth of the tarsal claws is actually as small as in *maculicollis* although this latter is a much smaller species.

The male genitalia of the three species above described have been extracted and prove in every case to be abundantly distinct from any previously figured. The following simple outline sketches of the male claspers while not strictly drawn to scale are sufficiently accurate for comparative purposes. The shorter branch of the terminal fork of the long median process in *mariana* is quite likely a malformation, the organ being otherwise entirely symmetrical. In both *iroides* and *microdon* the claspers are also symmetrical and fused together beneath so that the caudal opening is completely inclosed except for the horizontal notch in *iroides*.



- Fig. 1. *P. mariana* a. caudal; b. lateral; c. caudc-lateral aspect.
 Fig. 2. *P. iroides*; same lettering.
 Fig. 3. *P. microdon*; same lettering.